

**What is claimed is:**

1. A method, comprising:  
detecting occurrences of at least one trigger event; and  
5 determining the number of detected trigger event occurrences during a predefined time interval to establish thereby a rate of trigger event occurrences.
2. The method of claim 1, wherein said rate of trigger event occurrences is used to generate an alphanumeric value for display on a display device.
- 10 3. The method of claim 1, wherein said rate of trigger event occurrences is used to generate waveform imagery for display on a display device.
4. The method of claim 1, wherein said trigger event comprises at least one  
15 of a glitch condition, a pulse width violation condition, a slew-rate violation condition, a runt condition, a time-qualified runt condition, an abnormal pulse condition, a time-qualified abnormal pulse condition, a timeout condition, a window criteria condition, a set-up and hold violation, a logic pattern, a logic state and an edge condition.
- 20 5. The method of claim 1, further comprising:  
associating indicia of at least some of said trigger event occurrences of at least one trigger condition with a respective timestamp.
- 25 6. The method of claim 5, wherein each of said trigger events is associated with a time stamp.
7. The method of claim 1, further comprising:  
associating indicia of at least some of said trigger event occurrences of at  
30 least one trigger condition with a respective timestamp; and  
processing said time stamped indicia using a fast Fourier transform (FFT) to provide thereby a spectral profile of occurrences of said trigger event.

8. The method of claim 1, further comprising:  
asserting a trigger condition in response to said rate exceeding a  
threshold level.

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9. The method of claim 4, further comprising:  
asserting a trigger condition in response to each of at least two of said  
trigger events occurring.

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10. The method of claim 8, further comprising:  
asserting a trigger condition in response to a spectral profile correlating  
to a predefined spectral profile within a threshold level of accuracy.

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11. Apparatus, comprising:  
an advanced trigger module, for generating at least a first advanced  
trigger event indicator in response to at least one input signal;  
an event counter module, for counting the number of said at least first  
trigger events occurring during a predefined time period to establish thereby a  
rate of occurrence of said at least first event.

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12. The apparatus of claim 11, further comprising:  
a multiplexer, for receiving from said advanced trigger module each of a  
plurality of trigger condition indicative signals and selecting there from at least  
one of said trigger condition indicative signals for further processing by said  
event counter module.

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13. The apparatus of claim 11, further comprising:  
a time stamp module, for associating at least some of said trigger event  
occurrences of at least one trigger condition with a respective time stamp for  
subsequent processing by said display processor.

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14. The apparatus of claim 13, wherein each of said trigger events is associated with a time stamp.

15. The apparatus of claim 11, further comprising:

5 a time stamp module, for associating at least some of said trigger event occurrences of at least one trigger condition with a respective time stamp for subsequent processing by a fast Fourier transform(FFT) module;

10 said FFT module for processing at least one time stamp associated trigger occurrence signal to provide thereby a spectral profile of occurrences of said trigger event.

16. The apparatus of claim 11, wherein said trigger event comprises at least one of a glitch condition, a pulse width violation condition, a slew-rate violation condition, a runt condition, a time-qualified runt condition, an abnormal pulse  
15 condition, a time-qualified abnormal pulse condition, a timeout condition, a window criteria condition, a set-up and hold violation, a logic pattern, a logic state and an edge condition.

17. The apparatus of claim 11, further comprising:

20 an auxiliary trigger module, for asserting a trigger condition in response to said rate of occurrence of said at least first event exceeding a threshold level.

18. The apparatus of claim 15, further comprising:

25 an auxiliary trigger module, for asserting a trigger condition in response to a spectral profile correlating to a predefined spectral profile within a threshold level of accuracy.